

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of removing contamination from a Fischer-Tropsch derived paraffinic product hydrocarbon stream, the method comprising:

- a) conducting a Fischer-Tropsch process in a slurry type reactor using a catalyst comprising cobalt at a temperature range of about 400 to 550°F to produce a Fischer-Tropsch derived paraffinic product hydrocarbon stream;
- b) passing the Fischer-Tropsch derived paraffinic product hydrocarbon stream to a treatment zone;
- c) passing an aqueous acidic stream to the treatment zone;
- d) contacting the Fischer-Tropsch derived paraffinic product hydrocarbon stream with the aqueous acidic stream in the treatment zone to form a mixed stream containing Al contamination in particulate form;
- e) separating the mixed stream into at least one acidic extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream, and at least one modified aqueous acidic stream;
- ~~f) filtering the at least one acidic extracted Fischer-Tropsch derived hydrocarbon stream to remove at least a portion of the Al contamination in particulate form;~~
- ~~g) h~~ passing the at least one acidic extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream to a hydroprocessing reactor containing catalyst beds; and
- ~~h) g~~ hydroprocessing the acidic extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream to provide a hydroprocessed product stream, wherein the combination of the contacting step and the filtering step substantially reduces plugging of catalyst beds in the hydroprocessing reactor.

2. (Currently Amended) The method of claim 1, wherein the contacting step forms a third phase substantially distinct from the at least one extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream and the at least one modified aqueous

acidic stream, and wherein the aqueous acidic stream extracts the contamination from the Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream and isolates it in the third phase.

3. (Cancelled)
4. (Cancelled)
5. (Previously Presented) The method of claim 1, wherein the contamination originates from upstream processing equipment.
6. (Currently Amended) The method of claim 1, wherein the contamination originates from the catalyst comprising cobalt used to produce the Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream.
7. (Original) The method of claim 1, wherein the size of the contamination is such that the contamination may be passed through a 1.0 micron filter.
8. (Original) The method of claim 1, wherein the contacting step is performed as a batch process.
9. (Original) The method of claim 1, wherein the contacting step is performed as a continuous process.
10. (Original) The method of claim 1, wherein the aqueous acid stream comprises an acid dissolved in water, and wherein the concentration of the acid in the water ranges from about 0.0001 to 1 M.
11. (Original) The method of claim 10, wherein the concentration of the acid in the water ranges from about 0.01 to 0.1 M.

12. (Original) The method of claim 1, wherein the aqueous acidic stream comprises an organic acid dissolved in water, the organic acid selected from the group consisting of formic acid, acetic acid, propionic acid, butyric acid, and oxalic acid.
13. (Original) The method of claim 1, wherein the aqueous acidic stream comprises an inorganic acid dissolved in water, the inorganic acid selected from the group consisting of hydrochloric acid, sulfuric acid, and nitric acid.
14. (Original) The method of claim 1, wherein the aqueous acidic stream comprises reaction water produced in a Fischer-Tropsch hydrocarbon synthesis.
15. (Original) The method of claim 14, wherein the reaction water comprises acetic acid.
16. (Original) The method of claim 1, wherein the extraction step is performed in a mixing apparatus.
17. (Original) The method of claim 16, wherein the mixing apparatus is selected from the group consisting of a mixing valve, an orifice plate, an inline static mixer, an extraction column with sparger, and a commercial mixing apparatus.
18. (Original) The method of claim 17, wherein the extraction column is selected from the group consisting of a wax bubble column, a two-phase injection, and an acid spray column.
19. (Cancelled)
20. (Cancelled)
21. (Currently Amended) The method of claim 1, further including the step of distilling the Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream.

22. (Currently Amended) The method of claim 1, further including the step of adding a surfactant to the Fischer-Tropsch derived paraffinic product hydrocarbon stream.
23. (Cancelled)
24. (Cancelled)
25. (Currently Amended) A method of removing contamination from a Fischer-Tropsch derived paraffinic product hydrocarbon stream, the method comprising:
- a) conducting a Fischer-Tropsch process in a slurry type reactor using a catalyst comprising cobalt at a temperature range of about 400 to 550°F to produce a Fischer-Tropsch derived paraffinic product hydrocarbon stream;
  - b) passing the Fischer-Tropsch derived paraffinic product hydrocarbon stream to a treatment zone;
  - c) passing an aqueous acidic stream to the treatment zone;
  - d) extracting Al contamination from the Fischer-Tropsch derived paraffinic product hydrocarbon stream by contacting the Fischer-Tropsch derived paraffinic product hydrocarbon stream with the aqueous acidic stream in the treatment zone at extraction conditions to form a mixed stream, ~~containing Al contamination in particulate form,~~ comprising at least one acidic extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream, a modified aqueous acidic stream, and a third phase; and
  - e) separating the at least one acidic Fischer-Tropsch derived paraffinic product hydrocarbon stream from the modified aqueous acidic stream and the third phase, wherein after the extraction step the contamination contained in the modified aqueous acidic stream and the third phase is greater than the contamination contained in the extracted Fischer-Tropsch derived paraffinic product hydrocarbon stream; and
  - f) ~~filtering the at least one acidic extracted Fischer-Tropsch derived paraffinic hydrocarbon stream to remove at least a portion of the Al contamination in particulate form.~~

26. (Currently Amended) The method of claim 25, wherein after the extracting step the contamination contained in the modified aqueous acidic stream and the third phase is at least 10 times greater than the contamination contained in the extracted Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream.
27. (Original) The method of claim 25, wherein the extraction conditions include a temperature ranging from about 200 to 600°F and a residence time ranging from about 10 seconds to 5 days.
28. (Cancelled)
29. (Cancelled)
30. (Currently Amended) The method of claim 25 further comprising the step of passing the at least one acidic extracted Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream to a hydroprocessing reactor.
31. (Original) The method of Claim 30, wherein the extraction step substantially reduces plugging of catalyst beds in the hydroprocessing reactor.
32. (Currently Amended) A method of removing contamination from a Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream, the method comprising:
  - a) passing a syngas to a Fischer-Tropsch slurry reactor to produce a Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream;
  - b) providing an additive to the contents of the Fischer-Tropsch slurry reactor to precipitate soluble contamination within the reactor;
  - c) filtering the precipitated contamination from the Fischer-Tropsch derived paraffinic product ~~hydrocarbon~~ stream to produce a filtered paraffinic ~~hydrocarbon~~ stream; and
  - d) passing the filtered paraffinic ~~hydrocarbon~~ stream to a hydroprocessing reactor,wherein the Fischer-Tropsch slurry reactor is run under continuous operation.

33. (Original) The method of claim 32, wherein the additive is selected from the group consisting of an acidic component and a surfactant.
34. (New) The method of claim 1, further comprising filtering the at least one acidic extracted Fischer-Tropsch derived hydrocarbon stream to remove at least a portion of the Al contamination in particulate form prior to passing to the hydroprocessing reactor; and wherein the combination of the contacting step and the filtering step substantially reduces plugging of catalyst beds in the hydroprocessing reactor.
35. (New) The method of claim 1, further comprising the step of filtering the Fischer-Tropsch derived paraffinic product stream.
36. (New) The method of claim 35, wherein the filtering step is performed after the contacting step.
37. (New) The method of claim 25, further comprising the step of filtering the Fischer-Tropsch derived paraffinic product stream.
38. (New) The method of claim 37, wherein the filtering step is performed after the extracting step.